

Winter Habitat of Bluegill, Black and White Crappie

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In a new project initiated several years ago, we are using radio telemetry to learn more about winter habitat needs of bluegill, black crappie and white crappie. We use tiny transmitters that weight 3.5 gram (about 0.12 ounce) and last about 6 months. Transmitters are attached to the dorsal muscle, the dorsal spines, or surgically implanted into the body cavity. Transmitters attached to the dorsal spines have provided the best results. Early telemetry results show that no matter where in a backwater complex, flowing side channel, or main channel border that fish were tagged, nearly all the fish moved to several small protected backwater lakes to spend the winter. There was no current in these backwater lakes and water temperature was around 35-37 °F (main channel water temperatures are always near 32 °F). The winter of 2000-2001 was fairly harsh; because dissolved oxygen declined to near 2 ppm for extended periods. Sustained low dissolved oxygen in the 2-3 ppm range caused considerable stress on wintering fish and nearly 25% of the radio tagged fish died. The winter of 2001-02 and 2002-03 were not severe and no declines in dissolved oxygen were noted in wintering areas used by bluegill, black crappie and white crappie. Milder winters resulted in lower natural mortality rates, however, more radio tagged fish were harvested by ice anglers. The 2003-04 winter was mild until late January when heavy snow cover and cold temperatures resulted in declines in dissolved oxygen. This resulted in the mortality of about ¼ of the radio tagged fish. In addition, nearly ¼ of the radio tagged fish were harvested during early fall and winter ice-fishing period. The 2004-05 winter was mild with little snow and little declines in dissolved oxygen. The fish were tagged near or in two separate backwater lakes that are in the vicinity of a Habitat Rehabilitation and Enhancement Project. One had significant ice fishing pressure and over ½ of the fish in this backwater were harvested while no tagged fish in the other area were harvested. This study will be continued in the same backwater complexes and Mississippi River Pools during future project segments, so this information can be used to help direct and evaluate rehabilitation of backwater complexes through the Habitat Rehabilitation Program